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Stachybotrys subreniformis, new from soil in China

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Abstract — A new species of *Stachybotrys* from soil in China, *S. subreniformis*, is illustrated and described. It differs from similar species mainly by producing smaller conidia and shorter conidiophores. The type specimen (dried culture) and living culture are deposited in the Plant Pathology Herbarium of Guizhou University (HGUP).

Key words — soil fungi, taxonomy, dematiaceous hyphomycetes

Introduction

During an investigation of soil dematiaceous hyphomycetes in Guizhou Province, Southwestern China in 2009, one isolate possessing the typical characters of *Stachybotrys* Corda was obtained from forest soil and found to differ from described species of *Stachybotrys* in conidial and conidiophore morphology. The new taxon is illustrated and described below.

Materials & methods

Fifteen soil samples were collected from Duyun, Guizhou Province. The methods of sample collection, isolation and identification of fungi, and preparation of dried cultures were as previously reported by Jiang & Zhang (2007). Conidia and conidiophores were placed in a drop of 85% lactic acid and examined and photographed using light microscopy. Thirty mature conidia and phialides were measured by using a UB200i microscope (Chongqing UOP Photoelectric Technology Co., China) at 1000× magnification. The fungi are described from cultures grown at 25°C on corn meal agar (CMA).

Taxonomy

Stachybotrys subreniformis Q.R. Li & Y.L. Jiang, **sp. nov.** Fig. 1 a–b

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Coloniae effusae, densae, pilosae, griseae vel nigrae. Mycelium superficiale vel immersum. Hyphae hyalinae, ramosae, septatae, laeves, 5–7 µm crassae. Conidiophora macronemata, mononemata, erecta vel flexuosa, ramosa, septatae, hyalinae vel artobrunnea, 48–98 ×

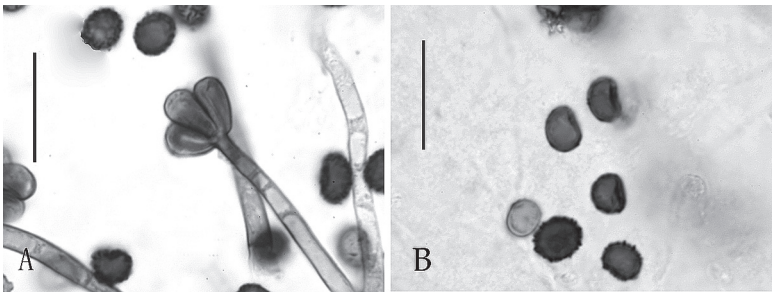

Fig. 1a–b. Conidia and conidiophores of *Stachybotrys subreniformis*. (Bars = 20 μm)

5.0–7.5 μm. Phialides brunnea, obovatae, laeves, 8.0–11.5 × 4.5–6.0 μm. Conidia sphaerica vel reniformia, aseptata, atrobrunnea, verruculosa, 6.0–9.5 × 4.5–7.5 μm.

Holotype: CHINA. Guizhou Province, Duyun, from forest soil, 15 December 2009, Q.R. Li, $HGUP_{09}1051$.

Etymology: in reference to the slightly reniform shape of many of the conidia.

Colonies on CMA effuse, dense, hairy, grey to black, colourless at first, then becoming dark with production of abundant anamorphic structures. Mycelium superficial and immersed: hyphae hyaline, branched, septate, smooth, 5–7 μm wide. Conidiophores macronematous, mononematous, erect or flexuous, branched, septate, hyaline to dark brown, 48–98 × 5.0–7.5 μm, tapering toward the apex which bears terminal phialides in a whorl of 2–7 around a central phialide. Phialides brown, obovate, smooth, 8.0–11.5 × 4.5–6.0 (av. 9.3 ± 0.9 × 5.3 ± 0.4, n = 30) μm, with conspicuous collarettes. Conidia aggregated in slimy masses, spherical or slightly reniform, nonseptate, dark brown, verruculose, 6.0–9.5 × 4.5–7.5 (av. 7.6 ± 1.0 × 6.1 ± 0.8, n = 30) μm.

In the key to *Stachybotrys* species (Pinruan et al. 2004), seven species produced reniform conidia. They are *S. nephrodes* McKenzie (McKenzie 1991), *S. sinuatophora* Matsush. (Matsushima 1971), *S. reniverrucosa* Whitton et al. (Whitton et al. 2001), *S. nephrospora* Hansf. (Hansford 1943), *S. reniformis* Tubaki (Tubaki 1963) and *S. renisporoides* K.G. Karand. et al. (Karandikar et al. 1992) and *S. oenanthes* M.B. Ellis (Ellis 1971). However, only *S. oenanthes* produces ovoid to reniform conidia, which is very close to *S. subreniformis*. Conidia of *S. subreniformis* (6.0–9.5 × 4.5–7.5 μm) are smaller than those of *S. oenanthes* (9–12 × 4.5–8 μm). In addition, the conidiophores of *S. subreniformis* (48–98 μm) are shorter than those of *S. oenanthes* (up to 190 μm).

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